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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/627,802	07/28/2000	Dwight J. Petruchik	81317RLO	3584

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PATENT LEGAL STAFF
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EXAMINER

DONG, DALEI

ART UNIT	PAPER NUMBER
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2875

DATE MAILED: 04/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/627,802

Applicant(s)

PETRUCHIK, DWIGHT J.

Examiner

Dalei Dong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 July 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

Drawings

1. New corrected drawings are required in this application because the submitted drawing are informal and lacks details and clarity. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Specification

2. The abstract of the disclosure is objected to because the word "comprises". This should be replaced with the word "having". Correction is required. See MPEP § 608.01(b).
3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.
4. The disclosure is objected to because of the following informalities:

On page 1, missing cross-reference number at the beginning of the disclosure.

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On page 4, line 21, "25EC to about 150 EC" should be 25°C to 150°C.

Appropriate correction is required.

Claim Objections

5. Claim 9 is objected to because of the following informalities: the claimed temperature range should be in degree form. Appropriate correction is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,142,391 to Fujiwara in view of U.S. Patent No. 5,085,605 to Itani.

Regarding to claims 1-15, Fujiwara discloses in Figure 5, a liquid crystal display device comprising "31a denotes a glass plate which provides a transparent electrode film 32a laminated thereon. The transparent electrode film 32a consists of an ITO transparent conductive film and an SnO.sub.2 transparent conductive film. This transparent electrode film 32a is formed on the glass plate 31a by means of the sputtering method.

Fujiwara also discloses in Figure 5, "there is also laminated on the transparent electrode film 32a a photoconductive layer 33 having a thickness of about 3 .mu.m. The photoconductive layer 33 is made of hydrogenated amorphous silicon (a-Si:H). More

particularly, this photoconductive layer 33 employs as raw materials silane gas (SiH_4) and hydrogen gas (H_2) and is laminated on the transparent electrode film 12a by means of a plasma CVD method.

Fujiwara further discloses in Figure 5, "further, the photoconductive layer 33 provides a light-absorbing layer 34, which is a kind of an organic film, laminated on the overall surface of the photoconductive layer itself. This light-absorbing layer 34 is formed to have a thickness of about 1.5 μm by means of coating carbon-dispersed system coating material with a spinner, photo-polymerizing the coating material by exposing it, and sintering the polymerized material for five minutes at 200.degree. C. The carbon-dispersed system coating material is formed by dispersing carbon black into an acrylic system resin so that the coating material may have a resistivity of 10^{10} $\Omega\cdot\text{cm}$ and a permeability of about 0.3% in a visible light range.

Fujiwara further yet discloses in Figure 5, "the light-absorbing layer 34 provides a dielectric layer 35 laminated on the overall surface of the light-absorbing layer itself. This dielectric layer 35 is formed by alternately laminating silicon dioxide and titanium dioxide with the EB vaporizing method. The dielectric layer 35 should be preferably formed to have a thickness of about 2 μm and a reflectance of about 99%. Since the dielectric layer 35 is vaporized on the light-absorbing layer 34, the dielectric layer 35 should be formed in the state of the base plate temperature of 250.degree. C. or lower, more preferably, 200.degree. C. or lower.

Fujiwara further yet discloses in Figure 5, "the dielectric layer 35 provides an orientation film 36a laminated thereon. This orientation film 36a is formed by spin-

coating a polyimide film and adjusting the molecular orientation of the polyimide film by using the rubbing method.

However, McFadden does not disclose placing a protective sheet over at least one of the first and second surfaces and subject the protective sheet to conditions of temperature and pressure. Itani teaches in Figure 3A, "a reflective insulating layer is formed on a first electrode 1, a light-emitting layer 3 is formed on the reflective insulating layer 2, a second electrode 4 is formed on the reflective insulating layer 3, and leads are led from both the electrodes 1 and 4, thereby constituting the AC power type EL element" (column 5, line 8-14).

Itani also teaches in Figure 3A, "A transparent conductive film 4 was formed by depositing ITO as a transparent electrode 4a on a PET film 4b. A thermosetting silver paste was printed on the transparent electrode 4a by a screen printing method. Thereafter, the printed silver paste was baked and thermoset at 150.degree. C. for 30 minutes to form an auxiliary electrode 4c on the transparent conductive film 4. Leads 7 consisting of phosphor bronze were temporarily fixed by a PET tape at predetermined positions of the auxiliary electrode 4c and the backplate 1" (column 8, line 30-39).

Itani further teaches in Figure 3A, "the transparent electrode 4a and the light-emitting layer 3 were bonded by using a laminator at a heating temperature of 170.degree. C., a linear pressure of 20 to 40 kg/cm, a feed speed of 10 to 50 cm/min. In addition, moisture-trapping films 5 constituted by a nylon 6 film and a thermoplastic adhesive adhered on the nylon 6 film was bonded to the outer surfaces of the transparent electrode 4a and the backplate 1 by using a laminator at a heating temperature of

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130.degree. C., a linear pressure of 20 to 30 kg/cm, and a feed speed of 30 to 50 cm/min" (column 8, line 40-49).

Itani further yet teaches in Figure 3A, "films obtained by forming thermoplastic adhesive layers 6b on protective films 6a consisting of PCTFE were bonded by thermocompression on the outer surfaces of the moisture-trapping films 5 by using a laminator at a heating temperature of 130.degree. C., a linear pressure of 20 kg/cm, and a feed speed of 30 cm/min. while the thickness ratio of the protective film to the thermoplastic adhesive was changed to be 5:1, 4:1, and 2:1, thereby sealing an AC power type EL element" (column 8, line 50-58).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have encapsulate the liquid crystal display of Fujiwara in the encapsulating laminant housing of Itani in order to prevent any of the liquid crystal material from leaking out, delamination of display device and uneven deterioration of the liquid crystal display and further a easy manufacturing method and has excellent resolution.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following prior art are cited to further show the state of the art of composition of an electrically addressable display.

U.S. Patent No. 4,721,883 to Jacobs.

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U.S. Patent No. 5,137,484 to Bohannon.

U.S. Patent No. 5,184,969 to Sharpless.

U.S. Patent No. 5,266,865 to Haizumi.

U.S. Patent No. 5,365,356 to McFadden.

U.S. Patent No. 5,830,028 to Zovko.

U.S. Patent No. 5,872,608 to Inoue.

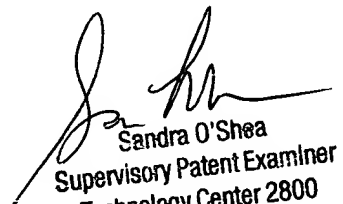
U.S. Patent No. 5,978,065 to Kawasumi.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalei Dong whose telephone number is (703)308-2870. The examiner can normally be reached on 8 A.M. to 5 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (703)305-4939. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9318 for regular communications and (703)872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

D.D.
April 1, 2003


Sandra O'Shea
Supervisory Patent Examiner
Technology Center 2800